JURUTERA
Number 2, February 2010 IEM Registered on 1 May 1959

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# Water Resources Threatened by Population Growth and Climate Change

*by* ***Ir. Chong Sun Fatt***
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**MALAYSIA** is a paradise blessed with rich natural resources. The country is endowed with abundant rainfall, averaging 3,000 mm annually, which is four times the world average. As our population increases, we have been confronted with various water resources problems such as flooding, water shortage and water pollution. The consequences are live loss, economic damage, social disruption, food security, health impact, deterioration in life quality and environmental damages.

Although the total water demand is currently less than 3% of the surface water resources in Malaysia, water shortage problems have been reported frequently. The main causes are water losses and wastages, apart from the variability of rainfall and water demand. The water quantity issue could be resolved by adopting sound water management strategies. Reduction of water wastage in irrigation and potable water, about 45% presently, should be given top priority. Water should be treated as an economic commodity and given the right tariff to reduce wastage.

Pollution of water resources is a more serious problem to resolve in Malaysia. Water sources are heavily polluted due to domestic discharge, commercial activities, industrial effluents, logging, agriculture and animal husbandry activities. The government must act fast and firm to curb pollution via the formulation of a national water policy and water laws, establishing a legal and institutional framework, and carrying out effective monitoring and enforcement works.

Water resources engineers in Malaysia must be technically competent for planning, designing and implementing effective and pragmatic water resources projects which are functional for long term operation and maintenance.

The water resources problem is more severe at the global level. The world's population tripled in the 20th Century and water use grew six-fold. Within the next 50 years, the world's population is envisaged to increase by another 40%-50%. A higher population requires more food to be produced, more land to be opened up for food production and housing, more industries to produce more goods. Water source pollution and diminishing water catchment areas would reduce water resources availability. The water shortage crisis must be resolved urgently through population control, lifestyle adaptations and technological innovation to prevent an imminent disaster of a global scale.

Climate change is posing an unprecedented threat to the survival of human beings. Sea level rise would reduce fresh water availability because of greater saline intrusion and land submergence. Population migration from inundated coastal plains to water catchments would further endanger the water source. Melting of glaciers would ultimately deplete the fresh water recharge capability for many large rivers originating from the highlands. Every earth citizen must respond to the appeal to combat climate change for the survival of all life on earth. ■